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ABSTRACT

This study is part of a longitudinal project examining the relationship between parent involvement and specific types of teacher practices, namely school-to-home communications. The study sample included 35 elementary school teachers from 4 midwestern school districts in small cities and rural areas, and a control group of 34 teachers from different schools in the same district. An intervention program was designed to increase teachers' use of home-to-school communication practices, and targeted the frequency, content and structure of these communications. The study evaluated the teachers' use of home-to-school communications from both the teachers' and parents' perspectives and assessed parent involvement from the parents' and child's perspectives. The study found that parents' overall evaluation of the teacher, their sense of comfort with the school, and their reported level of involvement was higher when they received frequent and effective communications. Children's motivation, attitudes toward parent involvement, and perceptions of their parents' level of involvement were more positive when their parents received frequent communications from the teacher. The findings suggest that helping teachers develop a sense of efficacy for involving parents may be an important component in school-based initiatives that intend to encourage teachers to enact parent involvement programs. The findings also suggest that school-to-home communications seem to be related to the parents' level of comfort with the school and their perceptions of their child as a learner. Contains 31 references. (TJQ)

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CENTER ON FAMILIES, COMMUNITIES, SCHOOLS & CHILDREN'S LEARNING

TEACHERS' SCHOOL-TO-HOME COMMUNICATIONS AND PARENT INVOLVEMENT

The Role of Parent Perceptions and Beliefs

Carole Ames
Lizanne de Stefano
Thomas Watkins
Steven Sheldon

Report No. 28 / April 1995

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The Role of Parent Perceptions and Beliefs

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CENTER ON FAMILIES, COMMUNITIES, SCHOOLS & CHILDREN'S LEARNING

The nation's schools must do more to improve the education of all children, but schools cannot do this alone. More will be accomplished if families and communities work with children, with each other, and with schools to promote successful students.

The mission of this Center is to conduct research, evaluations, policy analyses, and dissemination to produce new and useful knowledge about how families, schools, and communities influence student motivation, learning, and development. A second important goal is to improve the connections between and among these major social institutions.

Two research programs guide the Center's work: the Program on the Early Years of Childhood, covering children aged 0-10 through the elementary grades; and the Program on the Years of Early and Late Adolescence, covering youngsters aged 11-19 through the middle and high school grades.

Research on family, school, and community connections must be conducted to understand more about all children and all families, not just those who are economically and educationally advantaged or already connected to school and community resources. The Center's projects pay particular attention to the diversity of family cultures and backgrounds and to the diversity in family, school, and community practices that support families in helping children succeed across the years of childhood and adolescence. Projects also examine policies at the federal, state, and local levels that produce effective partnerships.

A third program of Institutional Activities includes a wide range of dissemination projects to extend the Center's national leadership. The Center's work will yield new information, practices, and policies to promote partnerships among families, communities, and schools to benefit children's learning.

Abstract

This study is part of a longitudinal project examining the relationship between parent involvement and specific types of teacher practices, namely school-to-home communications. The teacher sample included 35 teachers (6 second grade, 12 third grade, 7 fourth grade, and 10 fifth grade) from four midwestern school districts in small cities and rural areas. Participation was voluntary. A sample of 34 teachers (9 second grade, 11 third grade, 7 fourth grade, and 7 fifth grade) from different schools in the same district served as the control group.

The intervention program was designed to increase teachers' use of these practices, and targeted both the frequency, content, and structure of these communications. Teachers were provided with materials that focused on three areas: 1) provide parents with information about learning activities, goals, plans, curriculum; 2) provide parents with information about the strengths, accomplishments, and progress of their own child; and 3) provide parents with information, learning activities, and instructions about how to help their child learn at home. Teachers' use of school-to-home communications from both the teachers' and parents' perspectives were evaluated. Parent involvement from the parents' and child's perspectives were assessed. The study identified how parental beliefs and perceptions serve as mediating processes in the relationship between teachers' school-to-home communications and parent involvement.

The study found that parents' overall evaluations of the teacher, their sense of comfort with the school, and their reported level of involvement was higher when they received frequent and effective communications. In addition, children's motivation, attitudes toward parental involvement, and perceptions of their parents' level of involvement were more positive when their parents received frequent communications from the teacher. Our findings suggested that helping teachers develop a sense of efficacy for involving parents may be an important component in school-based initiatives that are intended to encourage teachers to enact programs of parent involvement. In addition, programs that are directed toward enhancing parents' sense of efficacy may be important for fostering parent involvement.

The findings also suggested that school-to-home communications seemed to be more directly related to parents' level of comfort with the school and their perceptions of their child as a learner. Parents' feelings of comfort, their evaluations of the teacher, and their knowledge about programs, classroom learning, and their child's experiences in school are important outcomes which may have long-term consequences for how parents view the education of their child.

Introduction

The family has long been recognized as having an important influence on children's learning and general school adjustment. In addition to family demographic and contextual variables, the literature documents the potential effects of parental expectations and beliefs and parenting styles on how children develop as learners (see Dornbusch et al., 1987; Grolnick, Ryan, & Deci, 1991). The results of these studies suggest the need to focus on the "motivational impact" of parents on children (Grolnick & Ryan, 1989, p. 143; see also Dix, Ruble, Grusec, & Nixon, 1986; Hess & Holloway, 1985). The home environment has been described as the "hidden curriculum" that provides the foundation for children's "receptivity" to learning in the classroom (Walberg, 1984a, 1984b). Together, home and school have been characterized as "overlapping spheres of influence" (Epstein, 1990) on children's academic learning. As a consequence, a collaborative relationship between home and school has been viewed as critical to the development of children's academic learning orientations (Comer & Haynes, 1991). This general body of research has underscored the benefit to children's learning when parents are invested in the learning process (Baker & Stevenson, 1986; Coleman, 1987; Comer, 1986, 1988; Epstein, 1990).

The need to establish meaningful connections between the home and school, and more specifically, to increase parents' investment or involvement in their child's learning has become a central tenet of many school reform agendas. Comer (1988), for example, has argued for educational reforms that go beyond classroom instruction and curriculum redesign and that additionally focus on psychosocial factors which stem from children's home experiences (p. 43). Within these reform efforts, parental involvement is viewed as an essential component for the success of many children, especially those who may be at-risk (Coleman, 1987; Comer, 1988). Establishing partnerships or connections between school and home to facilitate parental involvement has become the focus of many state reform efforts (e.g. Solomon, 1991).

With the burgeoning support for parent involvement initiatives across schools and districts comes the need for research on both the antecedents and effects of parent involvement. To date, however, there has been little empirical work studying the relative effectiveness of specific practices of parent involvement and even less effort directed toward understanding the processes underlying parent involvement.

As part of the educational reform agenda, parent involvement has taken on many different meanings. It has been described as creating partnerships between the home and

school, sometimes implying a formal relationship, as when parents participate in decision making or school governance. Parent involvement has also meant a teaching or educational role for parents, as when they serve as instructional aides or volunteers in the classroom or as at-home teachers. In these roles, parents are seen as instrumental in contributing directly or indirectly to the ability of the school to deliver its instructional programs more effectively (see Henderson, Marburger, & Ooms, 1986, as cited in Greenwood & Hickman, 1991). Alternatively, parents can also be involved in their child's learning by providing social and emotional support for their child. For example, parents can support their child's academic learning by establishing expectations, setting goals and standards, reinforcing progress and improvement, monitoring schoolwork, showing an interest and enthusiasm for what their child is learning, and talking to their child about school. This kind of support has been described as providing "cultural capital" that contributes to children's success at school (Comer, 1988; Lareau, 1987). Such a support system serves the child over the long term by reinforcing the value of schooling through family-based processes. In this study, we adopted this latter conception of parent involvement, that is, as a support system for the child.

Whether parent involvement is construed as contributing to program planning, providing instructional assistance, or building a support system, parents must be knowledgeable about the processes of learning and have confidence in their ability to contribute to their child's success. Many parents, however, are not knowledgeable about school programs and curriculum, have little information about their own child's experiences at school, or do not feel comfortable at the school. It is often the case that parents receive few communications from school that serve to inform them about the nature and structure of learning activities, about their own child's progress, or about how they may assist in their child's learning (Epstein, 1986, 1990). This lack of communication is certain to place some children at a severe disadvantage, especially those from families with less "cultural or social capital" (see Lareau, 1987). If parents are to become involved in their child's learning, teachers must employ strategies for communicating with parents as part of an overall program for involving parents (see Epstein, 1990).

Within Epstein's (1987) typology delineating six types of parent involvement practices, one method for helping parents become knowledgeable partners and for increasing parental participation and interaction with the child involves school-to-home communications. Epstein (1987), however, notes that these communications, as valuable as they may be, occur infrequently, and when they do occur, they often convey little classroom instructional information and instead report negative information about children's academic performance

or social behaviors. School-to-home communications can take many different forms. At the classroom level, frequent communications, as simple as classroom newsletters, may provide parents with information about completed or upcoming classroom learning activities; announce homework deadlines, special projects, or test dates; offer ideas for assisting children at home; invite parents to special events; provide questions for parents to ask their children about learning activities; or outline instructional goals. Teachers can also communicate on an individual basis with parents to highlight children's progress, accomplishments, or difficulties or give parents ideas and guidelines about how to help their child at home. In each case, however, the communication serves to establish a relationship between the classroom teacher and parent and focuses on the child's well-being and experiences in school. When communications from the teacher are used in a consistent manner and are meaningful, personally-relevant, and convey instructional information, they may indeed contribute to parental interest and involvement (see Ames, Khoju, & Watkins, 1993).

The literature on families suggests that parental beliefs and attitudes may be important predictors of parenting styles and parental involvement. In an earlier study (Ames et al.,1993), we found preliminary evidence to suggest that parents' sense of efficacy, perceptions of their child, and attitudes toward school may be related to whether or not they become involved. Eccles and Harold (1993) have described similar beliefs and perceptions as mediating processes within a parent involvement framework. Expectancy-related beliefs about the probable success of one's efforts have proved to be significantly related to children's academic behaviors and performance, and have also been used to explain differences in teachers' instructional practices and overall effectiveness (Gibson & Dembo, 1984; Midgley, Feldhaufer, & Eccles, 1989). Similarly, parents may become more involved in their child's learning when they believe they can influence their child's success (Eccles & Harold, 1993; Swick, 1988).

Parents may also be more disposed to become involved when they feel comfortable with the school (Comer, 1988; see also Lareau, 1987). A valuing of learning and achievement alone may not provide sufficient impetus to become involved unless there is also a favorable attitude toward the school. This attitude may evolve from a perception of the school as an inviting environment where teachers are concerned and care about their child. In addition, parents' motivation to become engaged in their child's learning may be enhanced when they perceive their child as motivated and able (Ames et al., 1993). Although we might expect parents to respond when they see their child not achieving or having difficulty, a willingness to become invested over the long term may well depend on a belief that one's investment will

make a difference — that their child will respond and benefit from their intervention. Just as teachers are more favorably disposed toward children who they perceive as trying, parental helping may depend on perceptions of their child's willingness to apply effort. As a consequence, parents' involvement may be more likely when they see their child as willing and able to learn, when they feel a sense of efficacy, and when they feel comfortable with the school. Such an analysis suggests that parental involvement may depend on a set of beliefs and attitudes that parents have about themselves, their child, and the school.

The purpose of this study, then, was twofold: (1) to examine how school-to-home communications contribute to parent involvement and (2) to gain a better understanding of the processes underlying parent involvement. We focused on three types of school-to-home communication: (1) providing parents with information about classroom learning, (2) providing parents with information about their own child, and (3) providing parents with information about how to help their child learn. These types of communications were developed in earlier work (Ames, 1992; Ames et al., 1993) and were selected because of their potential influence on parents' knowledge about classroom learning activities, sense of efficacy, attitudes toward the school, and view of their child as a learner. We were especially interested in determining how parental beliefs and attitudes may mediate the relationship between teachers' strategies for parent involvement and parents' reports of their involvement. Thus, teachers' practices for parent involvement were expected to influence specific parental beliefs as well as the nature and extent of their involvement.

Prior research also suggests that involvement is related to parents' educational background in that parents with less education, although they may place as much value on learning and achievement, are less likely to demonstrate involvement (e.g., Baker & Stevenson, 1986). Even so, we know little about how the processes predicting parent involvement may vary across parents with different educational backgrounds. In this study, we looked at the educational level of parents as a context that may contribute to a different pattern of relationships between parental beliefs and attitudes and involvement. For example, establishing feelings of efficacy and comfort with the school may be especially important for those parents with less education.

Although many studies of parent involvement have examined the relationship between parent involvement and children's achievement, few studies have explored motivational outcomes. Parent involvement, when conceived as academic, social, and emotional support, should provide a strong basis for socializing children's motivation and interest in learning.

Parent involvement, therefore, may contribute to children's motivation. Moreover, the long-term contribution of parent involvement to academic performance may be through its contribution to children's academic motivation.

Finally, use of school-to-home communications is likely to depend on the teachers' attitudes and beliefs. In our earlier work (Ames, et al., 1993), we found some evidence that teacher beliefs, namely teaching efficacy, may predict their use of school-to-home communications. In that study, we assessed teaching efficacy only, but there may well be other relevant types of efficacy-related beliefs. For example, teachers' efforts directed toward parent involvement may be more related to their sense of efficacy for involving parents than to their efficacy for teaching. Thus, teachers' beliefs about their ability to reach and involve parents as well as the value they place on parent involvement may be important predictors of their use of parent involvement strategies (Ames, et al., 1993; Hoover-Dempsey, Basslet, & Brissie, 1987). In this study, we differentiated teaching efficacy from parent involvement efficacy and examined the relationship of each to teachers' use of school-to-home communications.

This study is part of a longitudinal project that was designed to examine the relationship between parent involvement and specific types of teacher practices, namely school-to-home communications. We implemented an intervention program that was designed to increase teachers' use of these practices and which targeted both the frequency and content of these communications. Because the impact of these communications is likely to depend on whether parents actually receive and attend to these communications and judge them as effective, we evaluated teachers' use of school-to-home communications from both the teachers' and parents' perspectives. We also assessed parent involvement from the parents' and child's perspectives. Finally, the relationship between parents' beliefs and attitudes and parental involvement was examined within the context of parents' educational background.

Method

Sample

The teacher sample included 35 teachers (6 second grade, 12 third grade, 7 fourth grade, and 10 fifth grade) from four midwestern school districts in small cities and rural areas. These teachers volunteered to participate in a project whose purpose was described as

promoting parent involvement in children's learning. A sample of 34 teachers (9 second grade, 11 third grade, 7 fourth grade, and 7 fifth grade) from different schools in the same districts served as the control group. Teachers participating in the intervention group received compensation in the form of $100 or board credit from their district; teachers in the control group received no compensation. A total of 12 elementary schools were represented across the total sample of 69 teachers. Three districts were heterogeneous with respect to ethnicity (33%, 35%, and 48% ethnic representation) and SES (24%, 25%, and 60% eligible for free lunch), respectively. The fourth district was located in a more rural area and had 2% ethnic representation and less than 14% of the children eligible for free lunch. The parent sample included the mothers or primary caretakers.

Intervention

Teachers participating in the parent involvement intervention group were provided with a set of materials that focused on three areas of communications to parents. The three areas were defined as (1) provide parents with information about classroom learning activities, goals, plans, curriculum; (2) provide parents with information about the strengths, accomplishments, and progress of their own child; and (3) provide parents with information, learning activities, and instructions about how to help their child learn at home. These categories were developed in previous research projects (Ames, 1992; see also Ames et al., 1993) and are described in Table 1. Communication strategies that teachers were encouraged to use included classroom newsletters, phone calls, personal notes, home visits, review activities, work folders, and special assignments. These specific strategies had been developed and used by teachers in previous years of this and related projects (Ames, 1992), and as a consequence, teachers were provided with guidelines, a wide variety of formats, and teacher-developed examples of each strategy.

Insert Table 1 about here

The intervention focused on increasing the frequency as well as structuring the content of school-to-home communications. Teachers in the intervention group were instructed to follow guidelines which prescribed communicating with the parent(s) of each child in their room at least once a week using any one of the three areas of communication, with the stipulation that all three areas were to be used at least once a semester. They kept weekly

records of their communications, noting the specific type of communication. These records were collected and reviewed monthly.

Measures

Teacher Measures

At the end of the year, teachers in both the intervention and control groups completed a questionnaire which asked them about their relative use of specific types of communication practices, including (1) classroom newsletters, (2) information about classroom learning activities, (3) progress reports on a child's performance, (4) notes about children's accomplishments and improvement, (5) ideas about how to help children learn, and (6) activities for parent and child to do together. These individual items were also combined to form an overall score for teacher's self-reported frequency of communications. Teachers were also asked to rate how effective they viewed these different types of communication practices for parents of at-risk children. Ratings were made on five-point scales anchored at each end with very often and rarely (frequency scales) or with very effective and not effective (perceived effectiveness scales).

Teachers' efficacy for involving parents and efficacy for teaching were assessed separately. The teaching efficacy items were adapted from scales developed by Midgley, Feldlaufer, & Eccles (1989) and Gibson & Dembo (1984) (see also Armor et al., 1976; Berman, 1977). These teaching efficacy items were then modified to form the parent involvement items (e.g., "I have a lot of ideas about how to get parents interested and involved in children's learning" was adapted from "I have a lot of ideas about how to get my students interested and involved in learning.").

The six items on efficacy for parent involvement included "Compared to previous years, the parents this year are more difficult to work with" (reverse scored). "I feel I can make a difference in how parents become involved in their child's learning." " I am usually able to find an effective way to reach most parents." "I can find a way to communicate effectively with most parents." " Responsibilities and demands on my time make it difficult for me to try to communicate with and involve parents" (reverse scored). "I am usually able to find a way to establish two-way communication with even the most difficult parents." The

coefficient alphas were .68 for parent involvement efficacy and .72 for teaching efficacy. The two scales were significantly correlated, r= .59, p<.001.

Teachers' beliefs about the importance of parent involvement were assessed with three items, including "How important is it to you that parents help their child learn at home?" " How important is it to you to keep parents informed about what children are learning in school?" " How important is it to you to keep parents informed about their child's progress and improvement?" These items included a five-point response format and were combined. Teachers were also asked how often they initiated communication with parents of at-risk children.

Parent Measures

At the end of the school year, parents of all children in intervention (n=854) and control (n=855) classrooms were surveyed. The surveys were carried home by the child and returned in sealed envelopes to the classroom teacher. The mother or primary caretaker was instructed to complete the questionnaire. The response format across all items on the survey was a five-point scale and parents were asked to indicate level of agreement (strongly agree to strongly disagree) or frequency or amount (a great deal to very little or very often to rarely). The return rate for parent questionnaires was 73% for the intervention classrooms and 62% for the control classrooms. For the intervention classrooms, the return rate was 75% for second grade (n=152), 77% for third grade (n=290), 72% for fourth grade (n=201), and 66% for fifth grade (n=211). For the control classrooms, the return rate was 70% for second grade (n=213), 65% for third grade (n=283), 58% for fourth grade (n=175), and 50% for fifth grade (n=184).

Parents were asked to judge how often their child's teacher communicated with them across the six practices that were included on the teacher questionnaire. Parents were also asked how much information the teacher had given them to help their child in specific content areas (i.e., reading, math, and science).

Parent evaluations of the effectiveness of the teacher's communication practices were assessed with nine items (e.g., "This teacher really kept me informed about what my child was learning...made me feel like a partner in my child's learning...got me interested in what my child was learning... helped me understand his/her program.") which were combined into a

single scale to reflect perceived effectiveness of the teacher's school-to-home communication strategies. Similarly, parent evaluations of the overall effectiveness of the teacher were assessed with six items (e.g., "This teacher really helped my child become more interested in learning.. really encouraged my child...improved my child's self-confidence this year.") which were combined into a single scale to indicate perceptions of teaching effectiveness.

Parental beliefs about their ability to influence their child's success were assessed with the question "How much influence do you think you can have on your child's success at school?" Perceptions of their comfort with the school and the teacher were assessed with two items, "How comfortable do you feel at your child's school?" and " How comfortable do you feel with your child's teacher?" A measure of parents' perceptions of their child's motivation asked parents to rate their child across seven characteristics, (for example, "likes doing his/her homework," " likes to try new things even if they are hard," " works hard in school," " likes learning new things in math").

Parents' self-reported involvement with their child's learning was assessed with ten items, including ratings of how often they talked to their child about school, reviewed and discussed assignments, helped their child with math and reading, kept informed about their child's progress and accomplishments, and asked questions to find out what their child was learning in school. The coefficient alpha for the items combined into this parent involvement scale was .84.

To determine the educational background of the parents, the parent respondents were asked to check the highest level of education reached according to the following categories: (1) some high school, (2) completed high school, (3) some college, (4) completed college. This question was described as being optional and not all parents chose to respond.

Child Measures

Children responded to questionnaires during school hours, and all children who were in attendance on the day of the administration were surveyed. Children's perceptions of their parents' involvement were assessed across 15 items (e.g., "My parents ask me what I am learning in school...help me with my math homework...talk to me about my schoolwork...help me feel good about how I do in school...ask me to show them my schoolwork."). Coefficient alpha for this combined scale was .90. Children's attitudes toward parent involvement were

assessed with five items ("I like my parents to help me with my schoolwork...to ask me about what I am learning in school...to tell me when I do good work in school...to be interested in what I am doing in school...to ask me about my schoolwork."). Coefficient alpha for this scale was .75. A measure of children's motivation to learn (alpha = .76) included eight items (e.g. "I like doing my classwork." " I like learning new things." " I work hard to learn new things."). A measure of perceived competence (alpha=.75) included five items (e.g., "I am pretty good at my schoolwork." " I remember things easily." " I can do the work in my class."), and a measure of use of learning strategies (alpha= .83) included ten items (e.g., "I hand in my classwork on time." "I do my work carefully." "I keep working on a problem until I figure it out." "When I make mistakes, I try to figure out why."). Some items on the motivation scale were adapted from Gottfried (1985); items on the competence scale were adapted from Harter's Perceived Competence Scale (1982), and items on the learning strategies scale were modified from Weinstein, Zimmerman & Palmer (1988). The response format given to all children was the same and included a five-point scale labeled as YES, yes, sometimes, no, NO.

Results

Overview

These data were part of two-year study on parent involvement, and the findings described here involve data collected in year 2. To simplify the analyses, the data across grade levels were combined to represent lower (grades 2 and 3) and upper (grades 4 and 5) levels. For analyses that involved educational level, the high school categories (attended high school and completed high school) were combined so that the three educational levels were somewhat balanced in numbers and were designated as (1) high school, n=225, (2) attended college, n=334, and (3) completed college, n=405.

Descriptive Analyses

Teacher measures. Correlations were computed among all teacher measures to examine the relationship among teachers' self-reported use of school-to-home communications, their perceptions of the effectiveness of communications, beliefs about the

importance of parental involvement, efficacy for involving parents, efficacy for teaching, and frequency of communication to parents of at-risk and non at-risk children. This correlation matrix is presented in Table 2. The frequency of teachers' communications to parents was significantly related to their beliefs about the importance of parent involvement, $r(69) = .32$, $p < .01$, their beliefs about the effectiveness of these communications, $r(69) = .27$, $p<.05$, and their efficacy for involving parents, $r(69) = .30$, $p<.01$. Especially noteworthy was the significant relationship between teachers' efficacy for involving parents, but not their teaching efficacy, with their use of school-to-home communications. Teachers' efficacy for involving parents appeared to be a salient variable related to other beliefs (e.g., perceived importance) about parent involvement, and together they may be important precursors to teachers' parent involvement efforts and practices. At the same time, however, comparisons between the two efficacy measures showed that teachers were significantly less confident about their ability to involve parents ($M=23.87$, $SD=4.08$) than they were about their classroom teaching ability ($M=25.80$, $SD=3.95$), $t(69)=-4.42$, $p<.001$.

Insert Table 2 about here

Teachers' use of different types of communication strategies was analyzed by a Grade x Communication Strategy (repeated variable) ANOVA. Table 3 shows the means and standard deviations for this analysis. There was a significant interaction effect, $F(5,67)=4.88$, $p<.001$, and a significant effect for strategy, $F(5,67)=20.88$, $p<.001$. Teachers sent home ideas for helping and activities for parent and child to do together less often than other strategies although teachers in the lower grades tended to use these strategies more often than did teachers in the upper grades. Teachers appeared reluctant to ask parents to participate in learning activities at home but they may have been less inclined to do so if they believed parents incapable, unwilling, or having little time to help. It may also be the case that teachers may be less knowledgeable about how to involve parents directly in learning activities at home.

Insert Table 3 about here

We were interested in determining how teachers' communication practices might be related to the educational level of the parents. We first calculated the proportion of parents who were at the lowest educational level (i.e., completed high school or less) for each class

and correlated that proportion with teachers' reported use of different types of communication practices. This proportion (i.e., less educated parents in the classroom) was significantly and negatively related to teachers' use of classroom newsletters, $r(69)=-.41$, $p<.01$, and sending information home about classroom learning activities, $r(69)=-.25$, $p<.05$. Because these strategies are likely to involve written forms of communication, teachers may have been less inclined to use them when the parents were less well educated. Teachers' use of each other type of communication strategy was negatively related to the proportion of parents with less education, but these correlations did not reach standard levels of significance (see Table 4). Contrary to what might be expected, neither teaching efficacy nor parent involvement efficacy was significantly related to the proportion of less well educated families represented in their classroom.

Insert Table 4 about here

To examine the relationship between teachers' and parents' ratings of the teachers' use of various communication practices, parent ratings were aggregated within each educational level within each classroom. Teachers' self-reports were then correlated with the parents' reports within each educational level. These correlations are presented in Table 5. The findings showed particularly strong correspondence between teachers' and parents' reports on the frequency of classroom newsletters. Relationships between teachers' and parents' views of other practices show some strength between what teachers report communicating and what parents report receiving. The parents' perspective appears to be important in determining the extent and consistency of teachers' communication practices and perhaps other parent involvement strategies.

Insert Table 5 about here

Parent and Child Measures: Parallel items on both the parent and child questionnaires permitted comparisons between parent and child perceptions regarding the level of parent involvement. These comparisons were conducted with paired t-tests, which are summarized in Table 6. Overall, parents reported that they asked their child about school, talked to their child about schoolwork, and attended school events more often than was reported by their children. These differences were more prevalent among those families with more education (i.e., college background). There were no differences

between parent and child reports on helping with reading. The same was generally true for math, except at the highest educational level where children reported receiving more help than parents reported giving.

Insert Table 6 about here

Intervention and Control Group Comparisons

At the end of the year, a review of teachers' monthly reports showed that five teachers in the intervention group did not complete their reports for several months or did not implement the intervention with any degree of regularity. As a consequence, these five teachers, who were all from the same school, were removed from the analyses that compared the intervention and control groups. Thus, the final teacher sample designated as the intervention group included 30 teachers (5 second grade, 9 third grade, 6 fourth grade, and 8 fifth grade).

An Intervention (Intervention vs. Control) x Grade Level ANOVA on all teacher measures showed significant differences between the Intervention (M= 22.83) and Control (M=19.23) groups, $F(1,63)$, = 19.09, $p < .001$, on teachers' reported frequency of communicating with parents (see Table 7). These overall effects were primarily due to the differences that occurred on four specific types of communication practices. Teachers in the intervention group reported sending more classroom newsletters, information on classroom learning activities, and ideas for parents to help their child at home. There were also significant grade level differences, $F(1,63) = 7.36$, $p < .01$, with teachers in the lower grades reporting greater use of communications (M=22.15) and, more specifically, sending more ideas and activities for home use, than did teachers in the upper grades (M= 19.91). There were no significant differences on any other teacher measures.

Insert Table 7 about here

To compare the intervention versus control group differences on parent and child measures, the data were aggregated to the class level so that the class mean was used as the unit of analysis. Intervention (Intervention vs. Control) x Grade ANOVAs were then

conducted on all parent and child measures. There were significant differences related to the intervention for parents' perceptions of the frequency of specific communication practices (see Table 8). Parents with children in the intervention classrooms reporting receiving more frequent communications from their child's teacher (M= 21.69) than did parents who had children in the control classrooms (M= 19.13). The differences between the intervention and control groups were most notable in parents' reports of receiving classroom newsletters ($p<.001$), information on learning activities ($p<.001$), and ideas ($p<.01$) and activities ($p<.05$) for use at home. The analyses on other parent measures, however, showed no significant differences related to the intervention and no significant interaction effects. Where significant grade level effects occurred, the direction of the findings was consistent in showing higher means at the lower, than upper, grades. The ANOVA findings for the student measures revealed consistently strong grade level effects, with children in the lower grades having higher scores on each measure than children in the upper elementary grades. No significant effects related to the intervention were found on any student measure.

Insert Table 8 about here

In part, these findings tell us that teachers in the intervention group reported using more school-to-home communications than did teachers in the control group, and parents' reports tended to corroborate the teachers' reports on the frequency of these communications. Thus, we might conclude that the intervention program was effective in increasing teachers' communication practices aimed at involving parents. At the same time, however, there was no evidence that communication practices of teachers in the intervention group were perceived as more effective than those of teachers in the control group. Nor was there evidence that parents reported more involvement in the intervention than control group. Closer examination of the data revealed a sizable range in the frequency of communication practices among teachers in both the intervention and control groups. The means on the frequency of communication ranged from 16 to 29 in the intervention group and from 13 to 28 in the control group. This range of scores on teachers' own self-reports suggests that some teachers in the intervention group reported that they did not communicate with parents on a frequent basis; and some teachers in the control group were, in fact, frequent users of school-to-home communications.

The apparent absence of effects related to the intervention itself suggests that perceived frequency of teacher communication may not adequately represent how parents viewed these communications. Although parents' reports on the frequency of teachers' communications indicate that they actually received and attended to the communications, they do not reflect how parents perceived and interpreted the communications. The impact of school-to-home communications on parents' attitudes and willingness to become involved is likely to depend on how parents view these communications. Our correlational findings suggested to us that parents' perceptions of the effectiveness of teachers' communication strategies cannot be inferred from the teachers' or parents' reported frequency of communication. Although we found a positive correlation between teachers and parents' reports of teachers' frequency of communication, $r(60)=.50$, $p< .01$, we did not find a significant relationship between teacher's reported frequency of communication and parents' perceptions of effectiveness, $r(69) = .26$, n.s.

Thus, we decided to identify and contrast those teachers whom parents rated high versus low on both frequency and effectiveness of school-to-home communications. To form these groups from the entire sample of 69 teachers, we combined and equally weighted the scores from parents' ratings of the frequency and effectiveness of the teachers' communication practices and aggregated these data within each class to achieve a class mean for each teacher. We then selected five teachers with the highest scores within the lower and upper grade levels and five teachers with the lowest scores within the lower and upper grade levels. Thus, 10 teachers who were frequent and effective users of school-to-home communications from the parents' perspective were compared with those 10 teachers who were lowest on these measures. The average scores of teachers assigned to the high group versus the low group were 25.50 and 15.12 on the frequency of communication measure and 38.63 and 26.47 on the perceived effectiveness of these communications. The differences between the high and low groups were highly significant for each measure, $F(1,19)=267.01$, $p<.001$, for frequency of communication and $F(1,19)=95.63$, $p<.001$ for effectiveness of communication. In this selected subsample, 7 of the 10 teachers who were identified in the high category were teachers from the intervention group; similarly, 7 of the 10 teachers who were categorized in the low category were from the control group. Thus, although there was considerable variation within the intervention and control groups of teachers in their use of communications, by and large, the most frequent and effective users of school-to-home communications were teachers in the intervention group.

High and low (communication frequency and effectiveness) group comparisons

Group (High vs. Low Frequency and Effectiveness of Communication) x Grade Level ANOVAs were first conducted on all the teacher measures. A summary of these results related to the High/Low Group factor is reported in Table 9. Significant differences were found on frequency of communication and communication with parents of at-risk children. Although the high and low groups were formed based on parents' ratings, teachers were also found to differ in their own self-reported frequency of communication, with those in the high group reporting significantly greater use of communication strategies than those in the low group. The findings also showed that teachers in the high and low groups differed significantly in the frequency with which they reported communicating to parents of children they perceived as at-risk.

Insert Table 9 about here

Similar ANOVAs (High/Low Group x Grade Level) were conducted on all the parent and child measures. Significant grade level effects were found for parent involvement, with parents of children in lower grades (M=41.43) reporting more involvement than parents with children in the upper grades (M=39.13), $F(1,19)=11.63$, $p<.01$. Significant findings related to the High/Low Group factor were found for several measures (see Table 10). Teachers in the high group were evaluated by parents as more effective in helping their child develop an interest in learning and their academic abilities, $F(1, 19)= 22.92$, $p<.001$, than teachers who were in the low group. Teachers in the high, versus low, group were also seen as providing more information to parents about how to help their child in reading, math, and science ($p <.001$). Significant differences between the high and low groups were found on parents' perceptions of comfort with the school ($p<.001$) and reported involvement ($p<.001$). Thus, when parents viewed the teacher's communication practices as frequent and effective, they reported feeling more comfortable with the school and more involved with their child's learning.

Insert Table 10 about here

Similar High/Low Group x Grade Level ANOVAs on the child measures showed expected grade level differences on motivation ($F=7.31$, $p<.05$), learning strategies ($F=10.51$, $p<.01$), and level of parent involvement ($F=6.45$, $p<.05$). The means for motivation, use of learning strategies, and parent involvement were higher for children in the lower grades (Ms= 32.05, 45.63, 62.07, respectively) than upper grades (Ms=30.44, 43.21, & 59.13, respectively). Significant differences were also found between the high and low groups on motivation to learn, use of learning strategies, attitudes toward parent involvement, and perceived level of parent involvement (see Table 10). Children in those classrooms where teachers apparently communicated more effectively with their parents reported greater interest in learning, greater use of effective learning strategies, more positive attitudes toward their parents' involvement in their learning, and a higher level of parental involvement. Children's reports of their parents' involvement in their learning and their attitudes toward parent involvement seem to be linked to how often and effectively the teacher communicated with their parents. We suggest some caution in interpreting the findings on children's motivation since the relationship to children's motivation and use of learning strategies may not have been solely related to teachers' parent involvement practice. Teachers in the high group may have been more effective in classroom teaching as well as in using strategies for involving parents; and as a consequence, we may not be able to distinguish these teachers uniquely on the quality of their practices aimed at parent involvement.

Processes underlying parent involvement

In a previous paper (Ames et al., 1993), we reported evidence to suggest that parents' beliefs and perceptions may mediate the relationship between school-to-home communications and parent involvement. Parent efficacy beliefs, perceptions of their child's motivation and ability, and their comfort with the school were related to teachers' communication practices and to their reported involvement. In the present study, the designation of parents' educational level allowed us to examine, using exploratory path analyses, the direct and indirect relationships among parental beliefs and perceptions and parent involvement within three different educational groups: (1) parents who attended or graduated from high school, (2) those who attended college, and (3) those who graduated from college.

The selection of variables for the path analyses was first based on our finding that parents' perceptions of the frequency and effectiveness of teachers' communication strategies were important predictors of parents' self-reported involvement. A combined variable which included the average of parents' scores on the frequency of communication and effectiveness of communication scales (i.e., these scales were equally weighted when combined) was used to designate the variable labeled school-to-home communication. Other parent variables in the causal system included parents' beliefs about their influence on their child, parents' perceptions of their child's motivation, parents' perceived comfort with the school, and parents' ratings of their own involvement with their child's learning. The means and standard deviations for each variable across educational levels are shown in Table 11. The data for these analyses included all parents who responded to the full set of questions on the survey, that is, cases with missing data on any of the criterion variables were omitted.

Insert Table 11 about here

The path coefficients were estimated by the SAS procedure CALIS (Covariance Analysis of Linear Structural Equations) using the LINEQS model specification. All classrooms were included in the analysis and the individual parent was used as the unit of analysis for the estimation of the path coefficients. All parents for whom a full set of variables were available were used in the analysis. The path models are reported in Figures 1, 2, and 3 for each of the three educational levels. In each figure, the paths that were significant are shown by arrows, and path coefficients showing the strength of the relationship are shown next to the corresponding arrow. Correlations of the mediating variables are reported in parentheses. The R^2 values are reported for each variable, describing the percentage of variance of that variable that is accounted for by the combined direct and indirect effects of the related variables.

In the proposed model, parents' perceptions of their child, their child's school, and their own influence were expected to mediate how parents' viewed the teachers' communication effectiveness and parents' involvement in their child's learning. In constructing this model, we hypothesized that the impact of teachers' school-to-home communication patterns was dependent on whether parents actually received and attended to these communications and also viewed them as effective. This expectation is supported by the previous analysis which contrasted teachers who, according to parents' perceptions,

were rated high versus low on these measures. Thus, parents' perceptions of the combined frequency and effectiveness of teachers' school-to-home communication patterns were expected to have direct effects on parents' feelings of comfort with the school, their perceptions of their child's motivation, and their own perceived ability to influence their child's success at school. In turn, these inter-related mediating variables were assumed to predict overall parent involvement.

Separate models were generated for each parent's educational level. The goodness of fit indicators for all models suggested good to excellent fit (GFI>.94; AGFI>.78). Similarities across the models suggested that identifying mediating variables in the form of parent perceptions can contribute to our understanding of when and how parents choose to become involved in their child's learning. The direct influence of parents' views of the frequency and effectiveness of teachers' communication strategies remained consistent across all three education groups for two mediating variables: parents' perception of their child's motivation (r=.34, .40, and .33 for educational levels 1, 2, & 3 respectively) and their comfort with the school (r=.56, .59, and .58 for educational levels 1, 2, & 3 respectively). The influence of school-to-home communications on parents' level of comfort with the school was strong and consistent across the educational groups, and when considered with the other mediating variables, it accounted for a significant portion of the variance in parent comfort (r^2= .31, .34, & .34 for educational levels 1, 2, & 3 respectively). In contrast, the direct influence of teachers' school-to-home communications on parents' perceptions of their ability to influence their child decreased across educational levels (r= .24, .16, and n.s. for educational levels 1, 2, & 3 respectively). For those parents who completed college, the relationship between parents' perceptions of school-to-home communications and their own influence was not significant.

Teachers' communication practices, when assessed from the parents' perspective, had direct effects on parent involvement across all educational levels (r= .26, .25, & .26, respectively). The implication is that parent involvement is likely to increase when the frequency and quality of school-to-home communications increases, irrespective of educational level. The direct effects of the mediating variables on parent involvement, however, were less consistent across educational level. For each educational level, parents' perceived influence directly influenced parents' reported involvement (r= .50, .33, & .33, respectively); however, the influence was strongest for the lowest educational group. Thus, although parents' perceived influence or sense of efficacy is important for predicting parent involvement, it appears to be especially important for those parents with less formal

education. The direct influences of the other mediating variables on parent involvement were negligible and inconsistent.

The overall efficiency of the model (that is, the amount of variance in the criterion variable predicted by the model) decreased across the three educational groups (R^2= .46, .26, & .18, respectively). Thus, although the four factors are quite effective in predicting involvement of the lowest educational group, other factors not measured in this study apparently account for the variance in involvement for the more highly educated parents. As a consequence, the specified factors in this model lose their predictive power. Nevertheless, the significance of these findings is noteworthy since increasing parent involvement among families with less formal education is the goal of many programs and interventions.

Discussion

In this paper, we have viewed parents' beliefs, attitudes, and involvement as outcomes that can be influenced by teachers' practices and strategies for communicating with parents (see also Eccles & Harold, 1993). We have described an intervention program for increasing the frequency and structuring the content of teachers' school-to-home communications that allowed us to examine the relationship between teachers' communication practices and parent variables. Teachers' communication practices were examined for their direct relationship to parent involvement, but we were especially interested in how parents' beliefs and attitudes may mediate the effects of teachers' communication strategies on parent involvement.

The intervention program was successful in increasing teachers' uses of school-to-home communications, especially those that informed parents about classroom learning and other activities and gave parents ideas and activities for helping their child at home. However, we found no differences between the intervention and control groups of teachers in how parents viewed the effectiveness of the teachers' communications or in the parents' reported involvement. Consistent with our previously reported findings (Ames et al., 1993), we found substantial variation among teachers in their use of communication practices and, as well, the perceived effectiveness of their communications within both the intervention and control groups.

When teachers were split into high and low groups according to parents' perceptions of the frequency and effectiveness of their communications, important differences emerged. We found that parents' overall evaluations of the teacher, their sense of comfort with the school, and their reported level of involvement was higher when they received frequent and effective communications. In addition, children's motivation, attitudes toward parental involvement, and perceptions of their parents' level of involvement were more positive when their parents received frequent communications from the teacher. The majority of teachers who received the highest ratings from parents on frequency and effectiveness of communication strategies were participants in the intervention program, but some teachers in the control group, as a matter of course in their own teaching practices, communicated with parents effectively. Because we did not collect data on teachers' use of communications prior to the intervention, comparisons that would shed light on changes in teacher behavior over time are not possible.

These findings suggest the importance of using the parents' perspective in examining the impact of teachers' practices (see also Epstein, 1986). Not only do teachers' practices for parent involvement need to be used consistently, we must rely on parents to tell us whether the communications were received and how they were interpreted. Focusing on parents' perceptions is consistent with literature that has argued for using the subjective perspective of the individual in defining and describing experiences (e.g., Ames & Archer, 1988). Also, children's reports on parent involvement provide an alternative perspective to parents' self-reports. We found a number of discrepancies between parents' and children's reports about the level of parent involvement. Taken together, these findings revealed contrasting perspectives on teachers' communication practices and parent involvement depending on the source of information. These inconsistencies suggest appropriate cautions and the need to include multiple perspectives when evaluating various parent involvement programs.

Especially important were our findings of a positive relationship between teachers' school-to-home communications (when used frequently and effectively) and parents' reports of their involvement. This evidence came from two sets of findings: (1) the path analyses showed a direct relationship between school-to-home communications received and parents' involvement, and (2) comparisons between teachers who were classified as high versus low in frequency and effectiveness of communications showed differences in parents' reports of their involvement as well as children's reports of their parents' involvement and attitude toward parent involvement. The direction of these latter findings

favored the teachers in the high group, that is, those who used communications often and effectively. Overall, the evidence suggests that school-to-home communications may contribute positively to the kind of support system that parents are able to provide at home.

In this study, we were interested in studying beliefs and attitudes as processes underlying teachers' practices and parents' involvement. We looked at teachers' efficacy beliefs as related to their use of school-to-home communications, and we differentiated parent involvement efficacy from teaching efficacy. We found a stronger relationship between teachers' reports of their communication practices and their efficacy for involving parents than their teaching efficacy. Those teachers who believed they have a lot of ideas for involving parents, that they can make a difference in parents' level of involvement, and that they can find a way to reach most parents reported initiating more communications with parents. These findings suggest that efficacy for parent involvement may be an important set of beliefs to target in school-based programs that are focused on increasing teachers' efforts at involving parents. Our findings also reinforce others (e.g., Eccles & Harold, 1993; Swick, 1988) who argue for the need to look at beliefs and attitudes of teachers in understanding their practices of parent involvement. It may also be the case that teachers' efficacy may increase when they find successful ways of communicating with parents; thus, the relationship between efficacy and practices for communicating with and involving parents may be reciprocal.

Similarly, parents' efficacy-related beliefs were related to their level of involvement. The path models, in particular, showed a strong relationship between parents' beliefs that they could influence their child's success and their self-reports of involvement. This relationship was significant for parents at each educational level, although it was considerably stronger for parents with less formal education (i.e., completed high school or less). We found only weak evidence that school-to-home communications impacted parents' sense of efficacy, though this, too, was strongest for parents with the least formal education. For these parents, providing information that increases their familiarity with and knowledge of classroom learning may contribute to their own sense of being able to influence their child's success in school. At the same time, additional programs that give parents training in specific skills or that directly involve parents in the instructional process may have even stronger effects on parents' beliefs about their ability to have an influence. Even so, school-to-home communications provide a basic structure for parent

involvement. Making parents knowledgeable about school learning is an essential part of creating a support system.

We found that school-to-home communications had a significant impact on parents' feelings of comfort with the school. In a like manner, this finding was evident in the path analyses and while comparing parents' report in classrooms of teachers who were high or low in effectiveness of their communications. According to Comer (1988), developing feelings of attachment or identification with the school sets the stage for positive outcomes for children. The lack of connectedness between the home and the school has been described by many as a major factor inhibiting partnerships. This apparent separation may well come from a lack of knowledge and information. Our findings did not show strong linkages between parents' feelings of comfort with the school and self-reported involvement; however, parents' feelings of comfort, when considered for its long term impact, may be an important outcome in itself.

Contrary to our expectations, parents' perceptions of their child's motivation was not predictive of their involvement although it was related to communications received from the teacher. Teacher's use of progress reports and notes about accomplishments, in particular, were expected to contribute positively to parents' perceptions of their child as a learner. These communications were not affected by the intervention, and the role of these perceptions in parents' involvement remains unclear from our findings.

The grade level differences that were found support previous research (Becker & Epstein, 1982; Epstein & Dauber, 1991) in showing that teachers use more parent-involving communications in the lower than upper grades. These communications were those that provided parents with ideas and activities for helping their child at home. Also consistent with prior research were our findings that parents report less involvement in the upper than lower grades. Others (Baker & Stevenson, 1986; Becker & Epstein, 1982; Dauber & Epstein, 1993) have suggested that parent involvement declines as children progress through school, and although our findings cannot address changes in parent behavior over time, the apparent shift in teachers' practices may contribute to this negative trend.

There are many models and programs for increasing parent involvement, and programs aimed at involving parents as volunteers, aides, partners in decision making, or at-home teachers are multiplying as a result of many state educational reform mandates.

Indeed, the plethora of reports that have linked parent involvement to student achievement has persuaded many states and districts to make parent involvement a priority for school improvement plans. At the same time, many of the programs or strategies that have been adopted are not being subjected to the kind of evaluation that helps us understand the processes underlying parent involvement.

Our findings suggest that helping teachers develop a sense of efficacy for involving parents may be an important component in school-based initiatives that are intended to encourage teachers to enact programs of parent involvement. In addition, programs that are directed toward enhancing parents' sense of efficacy may be important for fostering parent involvement. School-to-home communications, as we have defined them, seemed to be more directly related to parents' level of comfort with the school and also their perceptions of their child as a learner. What is important to note, however, is that parents' feelings of comfort, their evaluations of the teacher and their knowledge about programs, classroom learning, and their child's experiences in school are important outcomes in themselves. These outcomes may have long term consequences for how parents view the education of their child.

There is a widespread perception that parent involvement is good and effective (White, Taylor, & Moss, 1992), that school programs for parent involvement are successful, and that these initiatives will result in higher achievement. Fine (1993), however, argues that parent involvement alone cannot create high achieving students. Schools and classrooms need to create a culture that supports learning, and parent involvement programs need to be focused on both parent and child outcomes. It cannot be assumed that all forms of parent involvement contribute to the same outcomes. As we gain greater understanding of the processes of parent involvement, we will make more informed decisions about the structure and delivery of programs and initiatives.

Finally, our findings that teachers' school-to-home communications have their strongest effects on increasing the involvement of parents who have less formal education are encouraging, as these parents are generally identified as the group for whom involvement is most problematic.

When initiating programs of parent involvement, the teacher must find meaningful and effective strategies to connect to the family. Decisions about which strategies to employ must be guided by a knowledge of the concomitant processes and outcomes. The

teacher also needs to consider how the processes that support parent involvement vary across different family characteristics. This study contributes to this literature by identifying how parental beliefs and perceptions serve as mediating processes in the relationship between teachers' school-to-home communications and parent involvement.

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Table 1

Three Categories of School-to-Home Communication

1. *Provide information about classroom learning*. Provide parents with information about classroom learning; for example, offer descriptions of classroom learning activities and units of study, instructional goals, specific objectives for a unit of study, classroom policies related to schoolwork and homework.

Intended purposes:

To increase parents' knowledge about classroom learning activities and the learning process itself; to enable parents to talk with their child about classroom activities; to enhance parents' interest in what their child is learning; and to encourage parents to communicate positive attitudes about what the child is learning.

Examples of communication strategies:

Weekly classroom newsletters, parents visits to the classroom.

2. *Provide positive information about their child.* Give information related to their child's progress, improvement, positive qualities, and accomplishments; also help parents identify areas for improvement and how they can help their child achieve these goals.

Intended purposes:

To help parents recognize their child's positive qualities, accomplishments, progress, improvement, and effort; to assist parents in establishing positive expectations, standards, and learning goals; to encourage parents to monitor their child's schoolwork and homework, and to establish a trusting relationship between the teacher and parent.

Examples of communication strategies:

Teacher-prepared notes and messages that contain positive information, folders of children's schoolwork with comments and invitations for two-way communication, telephone contact, conferences, home visits, teacher/parent/child contracts.

3. *Provide information for helping their child learn at home*. Invite parents to work with their child in learning activities, providing structure and direction. Parents need guidance for helping their child and must also be made to feel competent to help. Requests for their time and participation must be reasonable. The kind of parental assistance requested depends on the goals. Some children need extra learning time and more practice (review and remediation activities), some activities at home can enhance children's interests and learning (complementary or enrichment activities), and other activities can simply serve to foster parent and child dialogue on specific topics (discussion activities).

Intended purposes:

To provide extra learning time, to enhance children's interest in learning by involving parents in the process; to foster parent-child interaction around learning activities; and to extend and enrich children's learning by encouraging learning activities at home.

Examples of communication strategies:

Ideas and tips for helping their child with assignments or activities, review and remediation activities, workshops or conferences designed to instruct parents on how to help, homework-help phone lines, demonstration tapes on how to assist the child, questions to ask the child about school.

Note. Adapted from Ames, 1992 (see also Ames et al., 1993)

Table 2

Correlations Among Teacher Measures

Variable	(1)	(2)	(3)	(4)	(5)	(6)
1. Frequency of communication	--	.30**	.17	.27*	.16	.32**
2. Parent involvement efficacy		--	.59***	.49***	.50***	.26*
3. Teaching efficacy		--	.41***	.34**	.10	
4. Effectiveness of communication			--	.45***	.26*	
5. Communication with at-risk families				--	.19	
6. Importance of parent involvement					--	

n = 69 teachers
*p < .05
** p < .01
*** p < .001

Table 3

Means and Standard Deviations for Teachers' Use of Communication Practices (Teacher Report)

Variable	Lower Grades	Upper Grades
1. Classroom newsletters	3.68 (1.58)	3.55 (1.31)
2. Information about classroom activities	3.87 (1.26)	3.70 (1.17)
3. Progress reports	3.79 (.87)	4.10 (.83)
4. Notes on child's accomplishments	3.53 (.76)	3.55 (1.12)
5. Ideas for helping child learn	3.29 (.90)	2.55 (.85)
6. Activities for parent and child	3.11 (1.06)	2.12 (.72)

Note. Standard deviations are presented in parentheses. Maximum potential range of scores was 1 to 5.

n = 69 teachers

Table 4

Correlation Between Proportion of Low Educational Level Families with Teacher Measures

Communication Practices:	r value
1. Classroom newsletters	-.41**
2. Information about classroom activities	-.25*
3. Progress reports	-.17
4. Notes on child's accomplishments	-.18
5. Ideas for helping child learn	-.21
6. Activities for parent and child	-.11
Efficacy Beliefs:	
7. Parent involvement efficacy	-.04
8. Teaching efficacy	-.03

n = 69 teachers
*p < .05
** p < .01

Table 5

Correlations Between Teachers' and Parents' Reports of Teacher's Communication Strategies

Variable	Educational Level 1 (n=64)	Educational Level 2 (n=69)	Educational Level 3 (n=66)	Combined (n=69)
1. Classroom newsletters	.62***	.58***	.76***	.73***
2. Information about classroom activities	.33**	.34**	.24*	.40***
3. Progress reports	.40***	.42***	.44**	.45***
4. Notes on child's accomplishments	.34**	.19	.27*	.31*
5. Ideas for helping child learn	.33**	.16	.39**	.34*
6. Activities for parent and child	.19	.18	.39**	.42***

Note. Educational level 1 included parents who attended or graduated from high school, educational level 2 included parents who attended college, educational level 3 included parents who graduated from college. Data were aggregated to the classroom level.

*p < .05
** p < .01
***p < .001

Table 6

Means and Standard Deviations for Parents' and Children's Perceptions of Parents' Level of Involvement

Variable	Educational Level 1 (n=224)			Educational Level 2 (n=334)			Educational Level 3 (n=405)			Combined (n=963)		
	Parent	Child	t value	Parent	Child	t value	Parent	Child	t value	Parent	Child	t value
1. Asks what child is learning in school	8.29 (.11)	8.12 (.13)	1.05	8.42 (.08)	8.05 (.10)	2.96*	8.74 (.07)	7.92 (.09)	7.63***	8.50 (.05)	8.02 (.06)	6.53***
2. Talks to child about school work	8.66 (.10)	8.16 (.14)	3.06**	8.62 (.07)	8.21 (.10)	3.36***	8.95 (.06)	7.83 (.09)	10.53***	8.76 (.04)	8.04 (.01)	9.91***
3. Attends school events	3.75 (.08)	3.79 (.08)	-.41	4.05 (.06)	3.84 (.07)	2.74***	4.43 (.04)	3.90 (.06)	8.07***	4.12 (.03)	3.86 (.04)	5.75***
4. Helps child with reading	3.52 (.08)	3.44 (.10)	.85	3.57 (.06)	3.40 (.08)	1.97	3.32 (.06)	3.35 (.07)	-.37	3.46 (.04)	3.39 (.04)	1.35
5. Helps child with math	3.51 (.07)	3.76 (.09)	-2.51	3.63 (.06)	3.70 (.07)	-.74	3.47 (.06)	3.74 (.06)	-3.83***	3.54 (.04)	3.73 (.04)	-4.15***

Note. Questions 1 and 2 each represent two items combined

Table 7

Summary for Grade X Intervention ANOVA
(Teacher Measures)

	F Values		
Variable	Grade	Intervention	Interaction
1. Frequency of communication	7.36***	19.09***	.36
Classroom newsletters	1.96	31.18***	.08
Information about class activities	.24	9.75**	.84
Progress reports	1.49	.01	.45
Notes on accomplishments	.02	.06	.23
Ideas for helping child learn	16.90***	6.60*	1.18
Activities for parent and child	28.81***	5.11*	2.71
2. Parent involvement efficacy	.04	.23	1.77
3. Teaching efficacy	.00	1.48	.20
4. Effectiveness of communication	3.76	1.90	.02
5. Communication with at-risk families	.26	.04	.56
6. Importance of parent involvement	2.17	.01	2.94

df = 1,63 for all effects
* $p < .05$
** $p < .01$
*** $p < .001$

Table 8

Summary for Grade X Intervention ANOVA
(Parent Measures)

Variable	F Value		
	Grade	Intervention	Interaction
1. Frequency of communication	3.45	10.22**	.51
Classroom newsletters	3.76	17.71***	1.21
Information about class activities	2.64	14.00***	.92
Progress reports	.12	.21	.00
Notes on accomplishments	1.01	1.58	.04
Ideas for helping child learn	2.64	10.83**	1.25
Activities for parent and child	6.67*	8.95**	.05
2. Communication effectiveness	1.28	2.69	1.09
3. Teaching effectiveness	1.41	.61	2.16
4. Communications within subject matter areas	3.55	2.10	3.64
5. Perceived influence on child	6.42*	.01	1.05
6. Perceived comfort with school	1.19	.07	.24
7. Perception of child's motivation	5.25*	.03	1.86
8. Parent involvement	10.17**	.24	1.34

df = 1,63 for all effects
*p < .05
**p < .01
***p < .001

Table 9

Comparison of Teachers Rated as Low Versus High on Frequency and Effectiveness of Communication Practices

Teacher Variables	Teacher Group: Low Group (n=10)	Teacher Group: High Group (n=10)	F value
1. Frequency of communication	19.00 (3.23)	24.00 (4.45)	9.19**
2. Parent involvement efficacy	24.80 (4.29)	26.20 (4.42)	.51
3. Teaching efficacy	25.00 (4.92)	26.90 (4.46)	.82
4. Effectiveness of communication	18.90 (5.07)	19.80 (6.16)	.12
5. Communication with at-risk families	3.70 (.68)	4.60 (.70)	8.53**
6. Importance of parent involvement	13.50 (1.08)	14.20 (1.23)	1.66

Note. Standard deviations are presented in parentheses.

df=1,19
**p<.01

Table 10

Comparisons between Teachers Rated as Low Versus High on Frequency and Effectiveness of Communication

	Teacher Group		
Parent Variable	Low Group (n=10)	High Group (n=10)	F value
1. Evaluation of teacher	20.22 (2.95)	25.74 (1.78)	22.92***
2. Communication within subject matter	7.67 (.96)	10.97 (.93)	55.48***
3. Perceived influence on child	4.45 (.24)	4.46 (.14)	.01
4. Perceived comfort with school	7.74 (.62)	8.32 (.46)	18.30***
5. Perceptions of child's motivation	26.06 (3.06)	28.03 (1.44)	3.04
6. Involvement with child	38.81 (2.10)	41.76 (1.61)	19.10***
Student Variable			
1. Motivation	30.46 (1.96)	32.03 (1.03)	6.93*
2. Use of learning strategies	43.31 (2.07)	45.54 (2.07)	8.91**
3. Perceived competence	24.85 (.87)	25.75 (1.14)	4.32
4. Attitudes toward parent involvement	19.48 (1.13)	20.59 (1.11)	5.28*
5. Level of parent involvement	58.90 (3.33)	62.30 (2.75)	8.61**

Note. Standard deviations are presented in parentheses.

df = 1,19
*p < .05
**p < .01
***p < .001

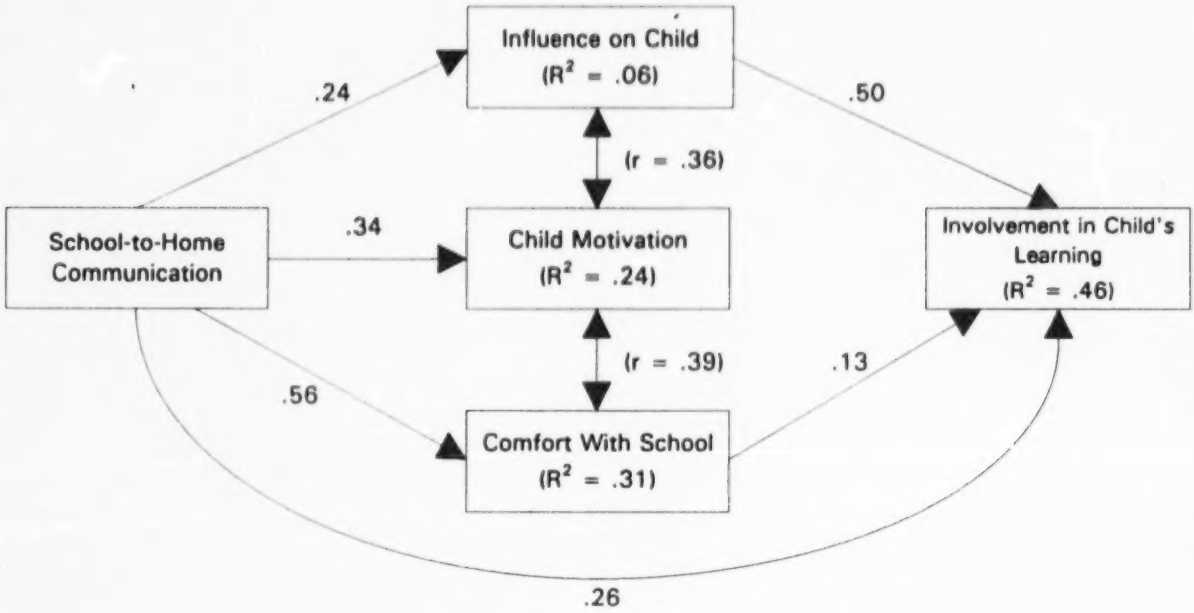
Table 11

Means (and Standard Deviations) for all Parent Variables Included in Path Analysis

Parent Variable	Educational level 1 (n=224)	Educational level 2 (n=334)	Educational level 3 (n=405)
1. Frequency and Effectiveness of School-to-home communications	7.36 (2.03)	7.17 (1.99)	7.00 (1.92)
2. Perceived Influence on child	4.34 (.87)	4.43 (.71)	4.54 (.71)
3. Perception of child's motivation	26.64 (6.40)	26.48 (6.10)	27.43 (5.78)
4. Perceived Comfort with school	8.41 (1.91)	8.66 (1.73)	8.50 (1.83)
5. Parent Involvement	39.77 (6.63)	40.44 (5.60)	41.20 (5.42)

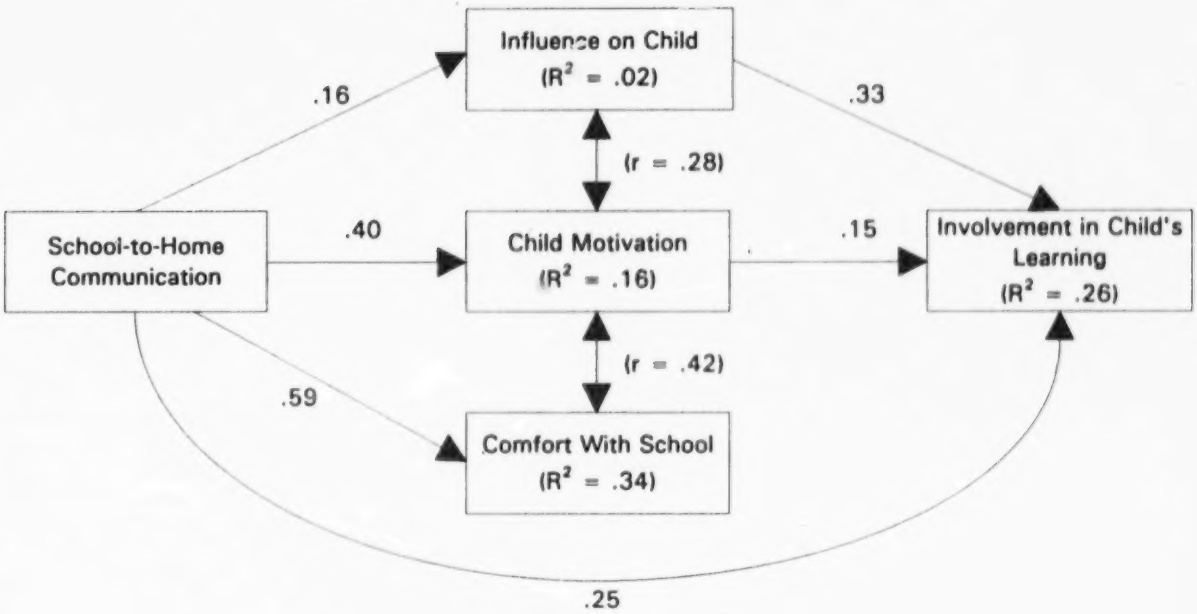
Note. For each parent, the average score for the frequency and effectiveness scales were combined, thereby equally weighting the two scales.

FIGURE 1.
Path Model of Parent-Reported Perceptions and Beliefs on Parent Involvement: Parents Who Attended Some or Graduated from High School (N = 224).



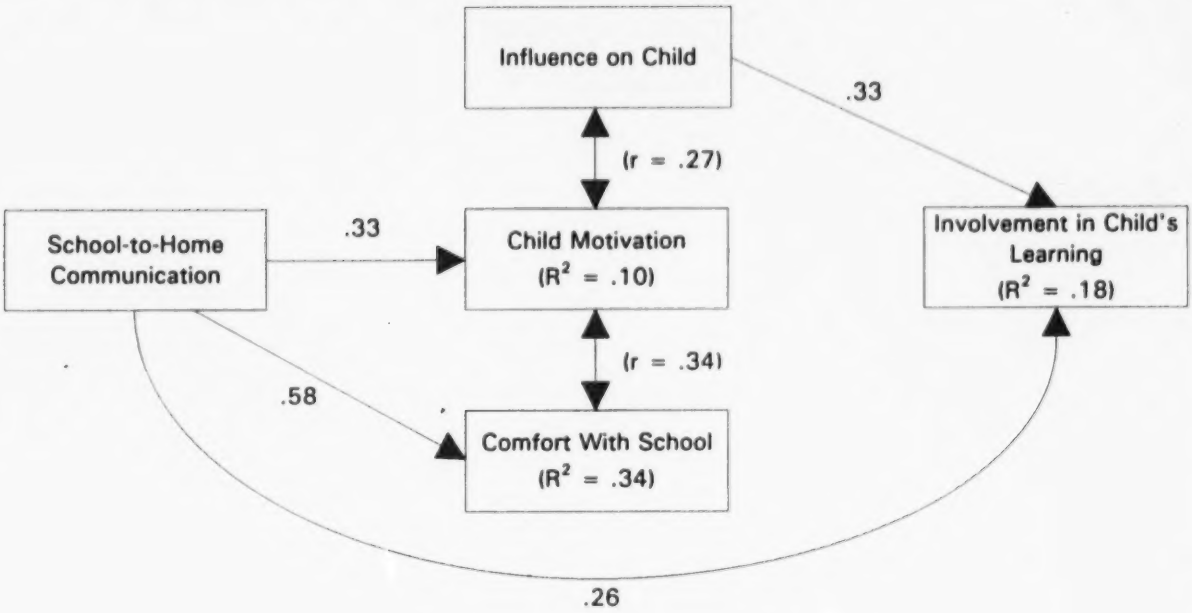
Note. All paths were significant at $p < .01$.

FIGURE 2.
Path Model of Parent-Reported Perceptions and Beliefs on Parent Involvement: Parents Who Attended Some College (N = 334).



Note. All paths were significant at $p < .01$.

FIGURE 3.
Path Model of Parent-Reported Perceptions and Beliefs on Parent Involvement: Parents Who Completed College (N = 405).



Note. All paths were significant at $p < .01$.